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Waterfowl Environments Today & Tomorrow

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Waterfowl Environments Today & Tomorrow

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I. Introduction

Waterfowl are the most prominent and economically important group of migratory birds in North America. Waterfowl populations, which have declined since the 1970s, are tied directly to the quality and quantity of wetland habitats. These habitats, once numbering 200 million acres, have been reduced to 92 million acres today and continue to decline primarily due to agricultural and urban expansion.

In 1988, BLM began implementation of its strategic plan for fish and wildlife entitled, FISH AND WILDLIFE 2000. To accomplish the waterfowl goals and objectives, contained in FISH AND WILDLIFE 2000, a Waterfowl Habitat Management Strategy Plan was completed. In December 1988, BLM and Ducks Unlimited Inc.(DU) signed a national Memorandum of Understanding (MOU) to further the implementation of the strategy plan. In August of 1990, BLM established a "Waterfowl/Wetlands Administrator" to coordinate the implementation of the strategy plan. This document, Waterfowl Environments Today and Tomorrow (WETT), contains specific actions that will be pursued and implemented jointly by BLM, DU and other cooperators on the 20.3 million acres of wetlands managed by BLM.

Although BLM will have the major responsibility for implementation of WETT, DU and other partners will be key in advising and cooperating with BLM on specific actions. Cooperator participation is crucial to BLM for the success of WETT.

Major emphases of WETT include:

- BLM's contribution towards the President's goal of no net loss of wetlands.
- The values and benefits of wetlands.
- Involvement in FISH AND WILDLIFE 2000, Recreation 2000, and the Riparian/Wetland Initiative for the 1990s.
- Active participation in implementation of the North American Waterfowl Management Plan (NAWMP).
- Development of public and private partnerships.

I. Introduction

Waterfowl are the most prominent and economically important group of migratory birds in North America. Waterfowl populations, which have declined since the 1970s, are tied directly to the quality and quantity of wetland habitats. These habitats, once numbering 200 million acres, have been reduced to 92 million acres today and continue to decline primarily due to agricultural and urban expansion.

In 1988, BLM began implementation of its strategic plan for fish and wildlife entitled FISH AND WILDLIFE 2000. To accomplish the waterfowl goals and objectives, contained in FISH AND WILDLIFE 2000, a Waterfowl Habitat Management Strategy Plan was completed. In December 1993, BLM and Ducks Unlimited Inc.(DU) signed a national Memorandum of Understanding (MOU) to implement the implementation of the strategy plan. In August of 1995, BLM established a "Waterfowl/Wetlands Administrator" to coordinate the implementation of the strategy plan. This document, Waterfowl Conservation Today and Tomorrow (WCTT), contains specific actions that will be pursued and implemented jointly by BLM, DU and other cooperators on the 20.3 million acres of wetlands managed by BLM.

Although BLM will have the major responsibility for implementation of WCTT, DU and other partners will be key to advising and cooperating with BLM on specific actions. Cooperator participation is crucial to BLM for the success of WCTT.

Major emphases of WCTT include:

- BLM's contribution towards the President's goal of no net loss of wetlands.
- The values and benefits of wetlands.
- Involvement in FISH AND WILDLIFE 2000, Recreation 2000, and the Riparian/Wetland Initiative for the 1990s.
- Active participation in implementation of the North American Waterfowl Management Plan (NAWMP).
- Development of public and private partnerships.

II. Economic Significance of Waterfowl Resources

According to the "National Survey of Fishing, Hunting, and Wildlife — Associated Recreation" prepared by the Fish and Wildlife Service in 1985, a total of 16.7 million people participated in hunting nationally. It is estimated that the total economic contribution for this form of recreation was $10.1 billion. The hunting of migratory waterfowl consisted of 11 percent of the total participants equating to an estimated $1.1 billion expenditure.

Economic benefits of wetlands to individual states and local communities is of major significance. In Montana, for example, it is estimated that the level of hunting activity reported would result in direct expenditures of $9.0 million in 1990 within the State. Activities such as viewing and photographing wildlife are known as "non-consumptive" wildlife recreation.

Nationally, more than 137 million people spent $14.3 billion in pursuing non-consumptive wildlife recreation activities in 1985. In Montana this amounted to $79 million. Nationwide, of all the participants identified in the 1985 summary, 68 percent participated in viewing and photographing migratory waterfowl and shore birds.

III. Wett Strategic Theme

The WETT initiative identifies and targets certain geographic areas important to migratory waterfowl and associated wetland wildlife. These areas are directly related to one another because of the needs of waterfowl throughout a given year. These needs include breeding, brood rearing, molting, migration, and winter habitats.

In the Pacific and Central Flyways, BLM has an opportunity to help off-set the on-going decline in waterfowl habitats and associated populations. This will be conducted through coordinated efforts involving the BLM, other agencies, and private organizations. These efforts will include initiating management actions, inventorying and monitoring waterfowl habitats, conducting research and sharing information critical to carrying out a coordinated BLM effort.

To further increase emphasis on habitat management for waterfowl and associated wildlife, the BLM will actively participate in existing and proposed Joint Ventures, state waterfowl and flyway meetings and other inter-agency efforts designed to enhance waterfowl habitat.

Waterfowl habitat management activities will be conducted in all BLM states to insure the success of WETT. However, the WETT initiative identifies three large geographic areas in Alaska, Montana and California, these states will serve as the foundation for this entire initiative. Alaska is important because it provides habitat crucial for breeding waterfowl populations that contribute to four flyways, particularly the Pacific and Central Flyways. Montana has an important part of the nesting habitat within the Prairie Pothole region and contributes to the populations in both the Pacific and Central Flyways. California's wintering and migration habitats are crucial for waterfowl produced in the central and pacific flyways. Collectively, these habitats are essential to insure that significant annual recruitment occurs to help meet waterfowl population goals setforth in the NAWMP.

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III. West Strategic Theme

The WSTT includes identifies and targets certain geographic areas important to migratory waterfowl and associated resident wildlife. These areas are directly related to one another because of the needs of waterfowl throughout a given year. These needs include breeding, brood rearing, molting, migration, and winter habitat.

In the Pacific and Central Flyways, BLM has an opportunity to help offset the un-paying decline in waterfowl habitats and associated populations. This will be conducted through coordinated efforts involving the BLM, other agencies, and private organizations. These efforts will include habitat management actions, investigating and monitoring waterfowl habitats, conducting research and sharing information critical to carrying out a coordinated BLM effort.

To further increase emphasis on habitat management for waterfowl and associated wildlife, the BLM will actively participate in existing and proposed Joint Ventures, state waterfowl and flyway or states and other inter-agency efforts designed to enhance waterfowl habitat.

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IV. Implementation Strategies

This section identifies specific strategies to achieve the goals and objectives outlined in FISH AND WILDLIFE 2000, the National Waterfowl Habitat Management Strategy Plan, and WETT.

A. Designate State Waterfowl/Wetlands Coordinator

Each State office (SO) will assign an individual to the role of Waterfowl Coordinator. This person will coordinate with the Waterfowl/Wetlands Administrator in facilitating the WETT implementation at the State, District and Resource Area offices of BLM. The State Waterfowl/Wetlands Coordinator will also;

- Participate in Joint Ventures, coordinate with other agencies and organizations.
- Develop or assist in the development of statewide goals, objectives and plans for waterfowl habitat management.
- Establish waterfowl management priorities cooperatively with partners.
- Attend flyway meetings, provides assistance and expertise in project design, including inventories and monitoring, and establishe technical standards as necessary and
- May serve as a member of the BLM WETT Implementation Team (see section F, item 3).

B. Inventory And Evaluate Habitat

1. The status of wetland habitats will be determined through inventories. High priority will be given to Waterfowl Habitat Management Areas (WHMAs) (see Appendix I) in each state. Inventories will be conducted on WHMAs and habitat conditions documented to identify improvement potential and opportunities for cooperative efforts with adjacent land owners. Specific areas for inventory will be targeted consistent with land use and activity plan schedules.

2. Identify data gaps and document inventory needs necessary to describe habitat conditions (or develop management objectives) and improvement potential according to importance of a specific WHMA or other waterfowl habitats. Incorporate objectives influenced by inventory data into State FISH AND WILDLIFE 2000 plans. Inventory plans will be prepared for all inventories and will include projected costs.

3. Gather and record data in a standard format suitable for input into the Bureau's Geographic Information System (GIS), WFIS and RIDS. At such time when equipment and personnel are in place, this inventory data will be incorporated into the GIS at State and District levels. The digitizing of wetland data for WHMA's will be a priority. GIS data will be used in preparation of Resource Management Plans (RMP's) and activity plans and in the development of wetland management objectives. Wetland GIS efforts should be coordinated with other public and private organizations to determine opportunities for cooperative ventures. GIS data gathered through ground or remote sensing will be used as baseline information necessary for development of waterfowl management objectives in land use or activity plans. This data will be used to determine and monitor waterfowl habitat conditions in potential or existing WHMAs.

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- Participate in Joint Ventures, coordinate with other agencies and organizations.
- Develop or assist in the development of statewide goals, objectives and plans for waterfowl habitat management.
- Establish statewide management priorities, cooperatively with partners.
- Attend Flyway meetings, provide assistance and expertise in project design, including inventories and monitoring, and establish technical standards as necessary and
- May serve as a member of the BLM WETT Implementation Team (see section F, item 1).

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2. Identify data gaps and document inventory needs necessary to describe habitat conditions for developing management objectives and improvement potential, considering as a priority a sample WHMA or other wetland habitats. Incorporate objectives influenced by inventory data into State FISH AND WILDLIFE 2000 plans. Inventory plans will be prepared for all inventories and will include projected costs.

3. Gather and record data in a standard format suitable for input into the Bureau's Geographic Information System (GIS), WFS and RIDS. At such time when equipment and personnel are in place, this inventory data will be incorporated into the GIS at State and District levels. The digitizing of wetland data for WHMA's will be a priority. GIS data will be used in preparation of Resource Management Plans (RMP's) and activity plans and in the development of wetland management objectives. Wetland GIS efforts should be coordinated with other public and private organizations to determine opportunities for cooperative ventures. GIS data gathered through ground or remote sensing will be used as baseline information necessary for development of waterfowl management objectives in land use or activity plans. This data will be used to determine and monitor waterfowl habitat conditions in potential or existing WHMAs.

C. Improve And Expand Habitat

1. Identify and prioritize habitat improvement and expansion needs on WHMAs. Priority should be given to habitat projects within "Areas of Concern" and "Joint Venture" areas as identified in the NAWMP.

2. Establish "showcase" projects. Initial projects selected will become such showcases. Showcase projects are those that have the highest visibility to the public, the greatest benefit to waterfowl, and are the most cost effective. These projects should be identified as challenge cost share projects in SO budget submissions and coordinated with the WWA for potential DU and/or other cooperator funding. Other sources of funding include LWCF, North American Wetlands Conservation Act, Migratory Bird Conservation Fund (MBCF submissions). Priority projects should be submitted through the budget process, beginning with the PYBP.

3. Utilize livestock grazing, prescribed fire, and vegetation manipulation to improve breeding, migration, and wintering habitats.

D. Maintain Habitat

1. Evaluate the status of wetland habitat maintenance on WHMAs currently included in HMPs and then develop maintenance agreements with State wildlife agencies and conservation organizations to implement identified maintenance needs.

2. Maintain all structures designed to improve or manage wetlands such as water delivery systems, water control structures, fencing, water pumping systems, etc.

3. Maintain waterfowl habitat improvements including but not limited to: plantings, vegetative manipulation, discing, modification of grazing regimes, and other uses to maintain natural habitats in proper functioning condition for waterfowl and associated wetland wildlife.

E. Land Tenure Adjustment

1. Prepare wetland acquisition/exchange packages for each state. Wetland acquisitions should be prioritized to preserve and protect those areas that are important to waterfowl. Those wetlands identified in the NAWMP and through the National Wetlands Priority Conservation Plan will also be considered high priority.

2. Determine the land use planning status for areas in which targeted waterfowl habitats are located. For those properties not addressed through the land use planning process, develop a schedule to address land use planning needs. Investigate adjoining land use plan to determine potential zoning changes for future urban/industrial development and other uses which would be incompatible with waterfowl/wetland habitat development.

3. Coordinate land exchange and project plans with other cooperators such as The Nature Conservancy, Trust for Public Lands, and DU.

4. Develop at the state level an MOU with the Federal Farm Home Administration (FFHA) to better facilitate conservation easements and fee title transfers to BLM as authorized in the Food Security Act of 1985 and the Agricultural Credit Act of 1987 (See Appendix II.)

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4. Develop at the state level an MOU with the Federal Farm Home Administration (FFHA) to better facilitate conservation easements and fee title transfers to BLM as authorized in the Food Security Act of 1985 and the Agricultural Credit Act of 1987 (See Appendix II.)

5. Develop at the state level, procedures with the Resolution Trust Corporation (RTC) and GSA to review roperty inventory lists to determine the feasibility of conservation easements and fee title transfer of wetland habitats.

F. Evaluate and Monitor Wett Program Implementation

1. Determine the status of wetland monitoring on the various WHMAs and include these recommendations into the State FISH AND WILDLIFE 2000 strategic plans and the budget process.

2. Incorporate needed data elements to assess the progress of WETT as part of the FISH AND WILDLIFE 2000 tracking system. Development of an interim system may be necessary to meet current needs.

3. Establish a BLM WETT Implementation team consisting of an administrative and technical body to coordinate the implementation of WETT. Annual Team meetings will be held seperately to discuss waterfowl habitat budgets, project developments, monitoring/inventory data, partnership participation and outreach coordination. These elements will be evaluated for inter-disciplinary action and program alterations as needed. The administrative body of the WETT Implementation team will consist of 13 BLM State Directors or their designee and the Waterfowl/Wetlands Adminisrator. The technical body will consist of 13 waterfowl/wetland coordinators representing each BLM state and the Waterfowl/Wetlands Administrator.

4. Prepare an annual report that identifies achievements and progress in reaching wetland objectives identified in both the national Waterfowl Habitat Management Strategy Plan and in WETT.

G. Training

1. This will be done in cooperation with the Phoenix Training Center, DU and other private and public corporations, enhance the technical capacity of BLM field personnel and State Wetlands Coordinators on a variety of wetland management techniques and strategies through technical assistance (on-site visits) and formal training.

2. Periodically conduct workshops for selected BLM field personnel and State Wetlands Coordinators on wetland management techniques applicable to specific habitat types within their geographical regions. This will help ensure efficient flyway wide waterfowl/wetland management actions. These workshops will be designed to group states where a combination of one or more similar habitat functions and seasonal waterfowl use occur. The groupings will be as follows;

   Group 1. Arizona, California, Nevada, New Mexico, Utah;
   Group 2. Colorado, Idaho, Montana, North Dakota, Oregon, Washington, Wyoming; Eastern States;
   Group 3. Alaska.

H. Outreach

Conduct outreach under a "Get WETT" theme.

1. Define Target Audiences through the utilization of wetland use profiles and other techniques.

2. Initiate an annual "Get WETT" outreach initiative in partnership with other cooperators. Such an initiative should center around displays, banners, outdoor classrooms, photo essay contest, etc.

3. Encourage each district and RA office to conduct an annual "Get WETT" program timed to a national effort with displays, banners, outdoor classrooms, photo essay contest, etc.

4. Tie-in "Get WETT" activities with major events of conservation organizations and other partners where possible, e.g. SHOT show, national conventions of conservation organizations etc.

5. Create outreach materials geared to a specific targeted audience. Some examples of these materials are children's brochure, WETT logo pins, T-shirts, hats, WETT display banners.

6. Incorporate WETT in other BLM outreach material e.g., Fish & Wildlife 2000, Watchable Wildlife brochures, signs and displays.

7. Develop site specific outreach materials highlighting "showcase" projects utilizing slides/video presentations.

I. Annual Progress Review With DU

In accordance with the National MOU between BLM and DU, an annual meeting with DU will be held to review and evaluate progress under the WETT initiative for the purpose of jointly:

1. Evaluating the progress of BLM/DU wetland habitat restoration/enhancement projects;

2. Identifying procedural deficiencies and establishing methods to correct them;

3. Evaluating and amending as needed all BLM/DU wetland management training courses;

4. Identifying and targeting potential wetland development projects on a regional basis;

5. Establishing and implementing key strategic and procedural element essential in facilitating the "flyway wide management approach" identified in WETT.

This joint meeting will be held annually at a location mutually agreeable to both DU and BLM. The BLM will be represented by key management and field personnel representing various geographic regions in the Pacific and portions of the Central Flyway.

V. Regional Strategies

Alaska Wett Strategy

The Bureau of Land Management currently administers 92 million acres of land in Alaska. More than 16 million acres of BLM administered lands in Alaska are wetlands (see figure 1). These vast tracts, most of which are pristine, are all that remain in their original state of what was once a vast network of wetlands distributed throughout North America.

Today, Alaska's wetlands are the last remaining primary waterfowl production areas in the United States that are in tact. Waterfowl that breed in Alaska contribute to fall flights in all four flyways. Alaska's wetlands are crucial to maintaining and increasing migratory waterfowl populations particularly in the Pacific and Central Flyways.

Approximately 15% of the total North American breeding duck population nests in Alaska (1990 status of Waterfowl & Fall Flight Forecast, Canadian Wildlife Service and USFWS). Currently, BLM in Alaska has management responsibilities for;

- Some of the most productive dabbling duck habitat in the world, as well as some of the key production habitat for diving ducks.

- Over 5 million ducks annually depend on Alaska's wetland habitats, a significant portion of which are managed by BLM.

- One of the last major nesting concentrations of trumpeter swans found in North America occurs on BLM administered lands in Alaska.

- A large portion of the sandhill cranes found in the Pacific Flyway, and a significant portion of those that frequent the Central Flyway, use Alaska lands administered by BLM for breeding and spring and fall migration staging areas.

- The last remaining nesting stronghold for pintail ducks is found in Alaska. Today, pintail nesting in Alaska comprise approximately 50 percent of the entire North American pintail

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3. Evaluating and amending as needed all BLM/DU wetland management training courses;

4. Identifying and targeting potential wetland development projects on a regional basis;

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V. Regional Strategies

Alaska Wet Strategy

The Bureau of Land Management currently administers 92 million acres of land in Alaska. More than 16 million acres of BLM administered lands in Alaska are wetlands (see Figure 1). These wet areas, most of which are pristine, are all that remain in their original state of what was once a vast network of wetlands distributed throughout North America.

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- One of the last major nesting concentrations of trumpeter swans found in North America occurs on BLM administered lands in Alaska.

- A large portion of the sandhill cranes found in the Pacific Flyway, and a significant portion of those that frequent the Central Flyway, use Alaska lands administered by BLM for breeding and spring and fall migration staging areas.

- The last remaining nesting stronghold for pintail ducks is found in Alaska. Today, pintail nesting in Alaska comprise approximately 30 percent of the entire North American pintail

population. (The U.S. population has fallen from an estimated 8 million birds in the early 1970s to 2.8 million today.)

- Over 20% of the worlds population of black brant use Teshekpuk Lake and certain other lakes administered by BLM in northern Alaska. These habitats are considered crucial for the survival of the species.

Alaska will serve as a key barometer for WETT by tracking waterfowl populations trends. This will help in assessing waterfowl population levels and trends and in correlating habitat capacity in Alaska with habitat conditions in wintering and migration areas. These trends will ultimately help guide BLM wetland resource management decisions and efforts throughout the flyways and in Alaska.

Strategies

1. Management of Alaska Habitats

Establish wetland management objectives and strategies through the RMP process for WHMA's following the schedule for RMP completion. Through established Bureau processes and guidelines, include wetland management objectives and strategies in already completed land use plans by 1997.

The Alaskan WETT strategy is based on total wetland ecosystem management and migratory bird species/habitat associations primarily in the Pacific and Central Flyways. Very little habitat destruction has occurred in Alaska, yet the total number of waterbirds and other migratory birds have declined. Most of this is the result of disturbances and habitat losses in migration and winter habitats.

A major objective for WETT in Alaska is to collect and provide information to managers in other parts of the flyways to facilitate better management of habitats and populations elsewhere. Management will be concentrated on wetland ecosystems and the associated migratory bird species dependent on those systems. Through yearly wetland/waterfowl monitoring and data collection, guided by remote sensing information, GIS tools, and modeling, recommended wetland management strategies can be initiated on key wintering and migration habitats elsewhere in the Pacific and Central Flyways.

2. Inventory Habitat

Alaska BLM will inventory and map wetlands and waterfowl habitat on 92 million acres of BLM managed lands in Alaska by the year 2010 using remote sensing, GIS technology, and field investigations. Coordinate all inventory with adjacent landowners and managers to insure consistency and comparability of data.

Due to Alaska's vast size and remoteness, habitat classification, necessary to determine BLM management decisions and planning, cannot be obtained without the assistance of remote sensing and GIS technology. Adequate BLM ground personnel devoted specifically to this effort are crucial for facilitating this effort.

At present, BLM Satellite image processing and GIS capabilities are very limited in Alaska. The development of "stand alone" capabilities in each district to edit classified satellite scenes and incorporate this into a GIS is essential. The linking of these stand alone systems with a central system, accessible by all BLM offices and other agencies in Alaska concerned with wetland resources management, is a critical logistical element to this strategy.

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Strategies

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Establish wetland management objectives and strategies through the RMP process for WETMA's following the schedule for RMP completion. Through established Bureau processes and guidelines, include wetland management objectives and strategies in already completed land use plans by 1992.

The Alaskan WETT strategy is based on total wetland ecosystem management and migratory bird species/habitat associations primarily in the Pacific and Central Flyways. Very little habitat destruction has occurred in Alaska, yet the total numbers of waterbirds and other migratory birds have declined. Most of this is the result of climate changes and habitat losses in migration and winter habitats.

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2. Inventory Update

Alaska BLM will inventory and map wetlands and waterfowl habitat on 22 million acres of BLM managed lands in Alaska by the year 2010 using remote sensing, GIS technology, and field ground-truthing. Coordinate all inventory with adjacent landowners and managers to insure consistency and compatibility of data.

Due to Alaska's vast size and remoteness, habitat classification, necessary to determine BLM management decisions and planning, cannot be obtained without the assistance of remote sensing and GIS technology. Adequate BLM ground personnel devoted specifically to this effort are needed for facilitating this effort.

At present, BLM Satellite image processing and GIS capabilities are very limited in Alaska. The development of "stand alone" capabilities in each district to edit classified satellite scenes and incorporate this info into a GIS is essential. The linking of these stand alone systems with a central system, accessible by all BLM offices and other agencies in Alaska concerned with wetland resources management, is a critical logistical element to this strategy.

The first major step for Alaska BLM is to map and evaluate all wetland and waterfowl habitats using a combination of remote sensing, GIS technology and field investigation. This will provide a base upon which to stratify habitats and correlate waterfowl usage and productivity in Alaska. Partnerships with DU and other organizations and agencies is important in helping to assess the extent and value of Alaskan waterfowl habitats.

3. Correlate management in Alaska with lower 48 initiatives.

Determine which goals and objectives of management plans for waterfowl in wintering and key migration areas can be linked or correlated to populations in Alaska breeding grounds. Consistent monitoring in Alaska will reveal and assess the effectiveness and success of these management actions and strategies. This will require the coordinated efforts of all agencies and organizations interested in waterfowl management in the Pacific and Central Flyways to identify movement patterns and use areas of important sub-populations and establish monitoring of productivity and survivability as it relates to management actions throughout the population's distribution.

To further enhance effectiveness of land use plans, Alaska BLM will determine habitat - species correlations for 16 million acres of wetland and waterfowl habitat by 2010 in cooperation with USFWS, DU, ADF&G, and the University of Alaska. Using computer technology, develop descriptive and predictive models that are responsive to, and assist in, management throughout the distribution of populations that breed in Alaska.

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4. Coordination.

On an annual basis, meet with agencies, organizations, and the Bureau WETT Implementation Team to evaluate waterfowl habitat use and population health and trends. By evaluating the success of BLM management efforts, BLM will further identify needed monitoring and studies, and coordinate future work.

5. Categorize Habitats.

By 1998, identify movement, staging, migration, breeding, and winter use areas for each important sub-population of waterfowl in Alaska. Determine criteria to be used to understand the importance of these areas to waterfowl by the end of 1992. Meetings will be held as necessary with cooperators within the Pacific and Central Flyways to revalidate the criteria and assess the priority of each habitat.

B. California Wett Strategy

Background

During the past quarter century, a greater percentage of wetlands has been lost in California's Central Valley than any other major ecological unit in North America. California originally contained approximately 5 million acres of permanent, seasonal and tidal wetlands, 4 million of which occurred in the Central Valley. Today, approximately 91 percent of the state's total and 93 percent of the Central Valley's wetlands have been destroyed. There are about 280,000 acres of permanent wetlands remaining in the Central Valley, 90,000 of which are unprotected.

During the 1970s, annual population peaks of waterfowl wintering in and passing through the Central Valley of California during fall and winter migration reached 10-12 million birds. Between 1984-1987, Pacific Flyway population levels declined severely. Ground surveys conducted in 1987 during mid-winter and nesting periods revealed a 40 percent reduction in populations over the previous 32 year period. A 50 percent reduction was recorded in the Central Valley.

Until recently, waterfowl in the Pacific Flyway remained abundant primarily because of continued high productivity on the Arctic and Alaskan breeding grounds. Recent declines of waterfowl observed in the Central Valley have also been reflected in breeding area censuses. Significant acreage of suitable breeding habitat in the Arctic and Alaska are now void of nesting waterfowl. The same is true of those pothole habitats in Montana visited by waterfowl that winter in the Central Valley. Large numbers of waterfowl over the years have been forced into smaller and smaller areas on Central Valley wintering areas. Today, over 60 percent of the waterfowl in the Pacific Flyway and more than 20 percent of all the waterfowl found in North America winter in the Central Valley. No where else on the North American continent are so many waterfowl dependent on so few acres of wetlands.

California's Central Valley is one of the five "top priority areas of major concern" identified in the NAWMP. This top priority area called the Central Valley Habitat Joint Venture (CVJV) is assessing waterfowl issues in the Central Valley and coordinating activities associated with the implementation of the NAWMP. The CVJV implementation board, on which the BLM plays an active role, has established specific objectives. A sample of these objectives include:

1. Protection of 80,000 acres of existing unprotected wetlands in the Central Valley.
2. Creation of 120,000 acres of new wetlands through conversion of agriculture lands.
3. Enhancement of existing wetland habitats on 2,900,00 acres of public and private lands.
4. Enhancement of habitat on 450,000 acres of agricultural lands.

4. Coordination.

On an annual basis, meet with agencies, organizations, and the Tucson WEET Implementation Team to evaluate waterfowl habitat use and population health and trends. By evaluating the success of BLM management efforts, BLM will further identify needed monitoring and studies, and coordinate future work.

5. Cooperative Habitats.

By 1992, identify movements, staging, migration, breeding, and winter use areas for each important sub-population of waterfowl in Alaska. Determine criteria to be used in understanding the importance of these areas to waterfowl by the end of 1992. Meetings will be held as necessary with cooperators within the Pacific and Central Flyways to revalidate the criteria and assess the priority of each habitat.

II. California Wetlands

Background

During the past quarter century, a greater percentage of wetlands has been lost in California's Central Valley than any other major ecological unit in North America. California originally contained approximately 5 million acres of permanent, seasonal and tidal wetlands, a million of which returned in the Central Valley. Today, approximately 91 percent of the state's total and 93 percent of the Central Valley's wetlands have been destroyed. There are about 280,000 acres of permanent wetlands remaining in the Central Valley, 90,000 of which are unprotected.

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1. Protection of 80,000 acres of existing unprotected wetlands in the Central Valley
2. Creation of 120,000 acres of new wetlands through conversion of agri-dominant lands
3. Enhancement of existing wetland habitats on 2,000,000 acres of public and private lands
4. Enhancement of habitat on 150,000 acres of agricultural lands

A goal of the BLM California Wetland Habitat Management Strategy Plan and WETT is to achieve approximately 10% of these CVJV objectives.

This will be done through land exchange or other appropriate means so as to acquire existing important wetlands in key areas of the Central Valley. This would include such actions as disposing of lands in the Bakersfield and Ukiah districts. Through exchanges and other appropriate means, existing unprotected wetlands or lands suitable for conversion to wetlands will be acquired in order to restore and create waterfowl/wetland habitat in the Central Valley.

Although a major emphasis of WETT and the California Wetland Habitat Management Strategy Plan places significant emphasis towards wetland acquisition, restoration and enhancement in the Central Valley, it is important to note that the same activities (all or part) will be initiated throughout the state. WHMA'S and other waterfowl/wetland areas will also receive management attention. On a state wide basis California BLM will initiate the following actions and objectives;

Strategies

Inventory And Evaluation

Wetlands/waterfowl habitat will be monitored on a geographic approach and the data incorporated into a GIS system. This analysis will be used to develop project submissions for habitat expansion, improvement, maintenance, and acquisition. Data gaps identified will direct inventories and analysis leading to additional habitat expansion, maintenance, and acquisition.

Existing inventory and GIS data will be evaluated to direct efforts in priority waterfowl/wetland areas. A standardized data base for all inventory and analysis data will be used to store information in the state.

Habitat Development

Initiate 82 wetland restoration projects statewide by the year 2000. The majority of these projects are located within 18 "Waterfowl Management Areas" and will average 500 acres in size.

By the end of FY 1995, all waterfowl habitat management plans will be revised.

By the year 2000, develop 22 additional waterfowl/wetland habitat management plans.

By the year 2000, develop 30 cooperator agreements in order to facilitate the restoration and management of waterfowl/wetland habitats. This activity will be included in budget submissions.

Monitoring

Monitoring will be focused as follows;

- Wetlands that have the potential for contaminant problems.
- Flooding regimes to insure that functional habitat is maintained.
- Waterfowl use and population trends in selected wintering and migration habitats.
- Vegetative responses and trends in selected wetland areas.

A goal of the BLM California Wetland Habitat Management Strategy Plan and WETT is to achieve approximately 10% of these CVIV objectives.

This will be done through land exchanges or other appropriate means so as to acquire existing important wetlands in key areas of the Central Valley. This would include such actions as disposing of lands in the Butte Field and Ukiah districts. Through exchanges and other appropriate means, existing unprotected wetlands or lands suitable for conversion to wetlands will be acquired in order to restore and create waterfowl/wetland habitat in the Central Valley.

Although a major emphasis of WETT and the California Wetland Habitat Management Strategy Plan places significant emphasis towards wetland acquisition, restoration and enhancement in the Central Valley, it is important to note that the same activities (all or part) will be initiated throughout the state. WRMA'S and other waterfowl/wetland areas will also receive management attention. On a state wide basis California BLM will initiate the following actions and objectives:

Strategies

Inventory And Evaluation

Wetland/waterfowl habitat will be monitored on a geographic approach and the data incorporated into a GIS system. This analysis will be used to develop project recommendations for habitat expansion, improvement, maintenance, and acquisition. Data gaps identified will direct inventories and analysis leading to additional habitat expansion, maintenance, and acquisition.

Existing inventory and GIS data will be evaluated to direct efforts in priority waterfowl/wetland areas. A standardized data base for all inventory and analysis data will be used to store information in the state.

Habitat Development

Initiate 82 wetland restoration projects statewide by the year 2000. The majority of these projects are located within 18 "Waterfowl Management Areas" and will average 300 acres in size.

By the end of FY 1995, all waterfowl habitat management plans will be revised.

By the year 2000, develop 22 additional waterfowl/wetland habitat management plans.

By the year 2000, develop 30 cooperative agreements in order to facilitate the restoration and management of waterfowl/wetland habitats. This activity will be included in budget submissions.

Monitoring

Monitoring will be focused as follows:

- Wetlands that have the potential for contaminant problems.
- Existing regions to insure that functional habitat is maintained.
- Waterfowl use and populations trends in selected wintering and migration habitats.
- Negative responses and trends in selected wetland areas.

Habitat Maintenance

Habitat will be maintained on 140 future and existing wetland restoration projects by the year 2000. These actions will include the maintenance of water delivery systems, vegetative manipulation, fire management, fencing etc.

Acquisition

By the year 2000, approximately 130,000 waterfowl/wetland acres will be acquired in California through exchange, donation and purchase. To better meet this objective, one additional lands position will be added at the State office level to work specifically on these land actions.

C. Montana Wett Strategy

Background

A significant amount of internationally important waterfowl production and migration habitat is found within Montana and the Dakotas. The glaciated valleys of western Montana and the short grass prairie of eastern Montana and the western Dakotas, provide significant waterfowl habitat. Of special concern is the pothole country of northern Montana and northeast North Dakota.

The amount of waterfowl breeding habitat in the "prairie pothole region" has been declining steadily during the past 30 years primarily as a result of agricultural drainage. Within the United States, the "prairie pothole region" includes parts of Montana, the Dakotas, and Minnesota. This area has been reduced from 20 million acres of prime wetland habitat to fewer than 8 million acres today.

Although this region makes up about 10 percent of the total waterfowl breeding in North America, the area provides prime breeding habitat for over 50 percent of the ducks in the Central Flyway and over 10 percent (1.5 million birds) in the Pacific Flyway. With the continuation of the prairie pothole drainage
programs and drought periods in the prairie states, prime waterfowl habitat and associated waterfowl populations have experienced a continued decline since the 1970's.

Because of the importance of the Prairie Pothole Region to continental waterfowl populations, the NAWMP focuses on this region. The Prairie Pothole Joint Venture (PPJV), of which the BLM is an active participant, has been established as a result. One of the primary purposes of the PPJV is to involve the public in a broad scale cooperative effort to preserve, enhance and restore waterfowl habitat in this region of the United States.

BLM is a major landholder in the Prairie Pothole region of Montana. As such, it can play a significant role in preserving and creating wetland habitat. For example, within a five county area in northcentral Montana (Blaine, Chouteau, Hill, Phillips, and Valley counties), BLM administers over 2.6 million acres or 20 percent of the land base. This area is estimated to encompass 12,000 natural potholes.

BLM has conducted and sponsored research on waterfowl habitat in the Prairie Pothole Region of Montana. This research has revealed that waterfowl production could be doubled through proper management of stock watering ponds, reservoirs, and associated upland habitat. Where BLM holds the water rights, this offers tremendous potential for increasing waterfowl abundance.

The Milk River Basin, located within the heart of the Prairie Pothole region of Montana, provides irrigation water for the Milk River Irrigation Project which was developed by the Bureau

Habitat Maintenance

Habitat will be maintained on 140 farms and existing wetland restoration projects by the year 2000. These actions will include the maintenance of water delivery systems, vegetative management, fire management, fencing etc.

Acquisition

By the year 2000, approximately 130,000 waterfowl/wetland acres will be acquired in California through exchange, donation and purchase. To better meet this objective, one additional break position will be added at the State office level to work specifically on these land actions.

C. Montana West Strategy

Background

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Although this region makes up about 10 percent of the total waterfowl breeding in North America, the area provides prime breeding habitat for over 50 percent of the ducks in the Central Flyway and over 19 percent (1.5 million birds) in the Pacific Flyway. With the continuation of the prairie pothole drainage programs and drought periods in the prairie states, prime waterfowl habitat and associated waterfowl populations have experienced a continued decline since the 1970's.

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The Milk River Basin, located within the heart of the Prairie Pothole region of Montana, provides irrigation water for the Milk River Irrigation Project which was developed by the Bureau

of Reclamation (BR). A Memorandum of Understanding (MOU) between the BR and the BLM restricts new water developments on BLM land to less than two acre feet unless; 1) BLM provides the means to release water in drought years or; 2) BLM can prove that the water held within the reservoir would not have reached the Milk River Irrigation Project. Since 1981, this MOU has severely restricted the development of reservoirs. BLM could construct reservoirs beneficial for waterfowl with modifications to this MOU.

In 1990, BLM employed a waterfowl biologist stationed in the Lewistown District Office in Montana to identify and coordinate opportunities for enhancing wetlands and waterfowl production habitat in Montana. A plan is being developed to guide these efforts.

Strategies

1. Inventory and Evaluation

Existing inventory and GIS data will be evaluated to direct efforts towards priority waterfowl use areas. This analysis will be used to develop project submissions for habitat expansion, improvement, maintenance, and acquisition. The data gaps tat are identified will help reveal where inventories are needed. A standardized data base system for all inventory and analysis data will be used to store information in the state.

2. Water Rights

In the Prairie Pothole portion of Montana, there are approximately 3,900 stockponds and reservoirs and thousands more located throughout the remainder of Montana and the Dakotas. Reservoirs and stockponds which do not have filed water rights will be identified and water rights filed. Water rights of existing reservoirs will be reviewed to determine if the rights are being fully utilized. A consolidation of water rights may achieve greater benefits for waterfowl and should be considered.

BLM has filed for water rights on 3500 of the 12,000 potholes in Montana. About half of the remaining 8,500 potholes qualify for federal reserved water rights. The remainder, approximately 4,500, are unprotected at this time. These potholes need to be reviewed to determine if water rights could be filed.

BLM will continue negotiations with the Bureau of Reclamation to revise the Milk River MOU to facilitate development of projects which benefit waterfowl. Without revisions to the MOU, it will be difficult for BLM to attain habitat goals and increased waterfowl production.

3. Habitat Development

Breeding pair and brood rearing reservoirs will be developed where water rights and sites are available. Until issues within the Milk River MOU are resolved, such project sites may be outside of the Milk River Basin. BLM will actively pursue partnerships with conservation groups in order to fund and construct new habitat improvement projects.

Grazing systems will be used where possible to improve nesting habitat and brood escape cover. Where grazing systems are ineffective in protecting brood cover, exclosures may be utilized to achieve objectives. Waterfowl and Riparian-Wetland management objectives for reservoirs will be included in AMPs and AMP revisions.

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Appendix II: Legislative Authority

The Federal Land Policy and Management Act of 1976, (Public Law 94- 579) directs that the public lands be managed in a manner that will provide food and habitat for fish and wildlife. Section 201 (a) provides for the preparation and maintenance of an inventory of public lands resources on a continuing basis. Section 401 (b)(1) authorizes the use of Range Betterment Funds for the protection, maintenance, rehabilitation, improvement, and management of wildlife habitat.

The Fish and Wildlife Coordination Act of 1958, (Public Law 85-624) directs that wildlife conservation be given equal consideration and be coordinated with other features of water-resource development programs, and requires that possible damage to fish and wildlife resources, from work planned in navigable waters and drainages, be assessed and that measures be adopted for preventing such losses or damages as well as for development and improvement of wildlife and fisheries resources.

The Migratory Bird Conservation Act of 1929, (Public Law 94-215) as amended, and treaties pertaining thereto, provide for habitat protection and enhancement of protected migratory birds.

The Public Rangelands Improvement Act of 1978, (Public Law 95-514) directs that the condition of the public rangelands be improved so that they become as productive as feasible for wildlife habitat and other rangeland values. The Act provides for on-the-ground funding of wildlife habitat protection, improvement, and maintenance projects.

The Sikes Act of 1974, (Public Law 86-797) as amended, provides for the conservation, restoration, and management of species and their habitats in cooperation with State wildlife agencies, including establishment of a hunting and fishing stamp program with revenues to be spent upon lands on which fees are collected.

The Food Security Act of 1985, (Public Law 99-198) was the omnibus farm bill which set the price supports and income levels from Fiscal Year 1986 through Fiscal Year 1990 for the major commodities: wheat, feed grains, cottons, milk and sugar. This law established the sodbuster and swampbuster programs. Through the sodbuster program, if a farmer plowed and planted highly erodible land, he was ineligible for government assistance. Similarly, the swampbuster program precluded a farmer from receiving any government support if he drained wetlands areas not farmed in recent years. This comprehensive law also established the Conservation Reserve Program. Due to delinquent loans, FFHA currently holds 1.7 million acres of foreclosed farm land. FFHA estimates that an additional 7.9 million acres of farm land could become part of its inventory in 1990/91. Wetlands could comprise 550,000 acres of that inventory. FFHA has the authority to reduce the debt owed in exchange for establishing conservation easements to protect wetlands. Such an agreement would enable BLM to receive accurate status of lands facing foreclosure and would facilitate timely negotiations for selected wetlands.

The Food Agriculture Conservation Trade Act of 1990, (Public Law 101- 624) extended the price supports and income levels for the major commodities from Fiscal Year 1991 through Fiscal Year 1995. The law extended the sodbuster and swampbuster programs, established water quality mandates and the wetland reserve program.

The Agricultural Credit Act of 1987, (Public Law 100-233) is intended to primarily provide credit assistance to farmers, to strengthen the Farm Credit system. This will help WETT through facilitating the exchange of farmlands for wetlands.

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